

## **3.5 Wetlands**

This section presents supplemental information related to impacts on wetlands and their mitigation within the S2GF site based on project modifications proposed by the applicant in the Second Revised ASC. Existing conditions, potential impacts of project revisions, and revised mitigation measures are discussed. Readers should note that wetland impacts under the federal jurisdiction of the U.S. Army Corps of Engineers (Corps) have not been modified since their description in the February 2001 FEIS.

The Second Revised ASC did not propose changes to wetland impacts or mitigation resulting from the construction and operation of the associated 230-kV transmission line, the wastewater discharge line, and natural gas pipeline. The reader is referred to the FEIS for this analysis.

### **3.5.1 Sources of Information**

Information used for the analyses presented in this section is based on Section 3.4 of the Second Revised ASC (Sumas Energy 2 et al. 2001); the Revised Wetland Delineation & Mitigation Report (Bexar Environmental Consulting Ltd. 2000 [Exhibit JW-4 in Appendix G of the FEIS]); summaries of previous reviews performed for EFSEC by its consultant, the Department of Ecology Northwest Regional Office in 2000; and information provided by the applicant's consultant, URS Corporation, in response to the Second Revised ASC review process and for this SEIS. These revisions update information previously presented in the February 2001 FEIS.

### **3.5.2 Existing Conditions**

#### **3.5.2.1 Wetland Acreage in February 2001 FEIS**

In the 2001 FEIS, the on-site wetlands (plant site and adjacent site to the west) were described as 2.8 acres of farmed wetland pasture (FWP) and 1.6 acres of wetland ditch, based on the Corps' definition of jurisdictional wetlands under federal requirements. Of this acreage, 0.9 acre of FWP and 1.0 acre of wetland ditch were located within the footprint of the proposed project. The 0.9-acre FWP was described as contiguous with a 9.4-acre forested/scrub-shrub, and emergent wetland area located west of the S2GF site (see Figure 3.5-1 and Table 3.5-1).

Figure 3.5-1

**Table 3.5-1. Wetland Acreage Based on the February 2001 FEIS vs. the June 2001 Second Revised ASC**

Wetland Type	Plant Site (acre)		West Mitigation Site (acre)		Total Area (acre)	
	FEIS	Second Revised ASC	FEIS	Second Revised ASC	FEIS	Second Revised ASC
Farmed Wetland Pasture	0.9	0.9	1.88	1.88	2.78	2.78
Wetland Ditch	1.0	1.0	0.55	0.55	1.55	1.55
Emergent	0.0	0.0	0.6	0.6	0.6	0.6
PFO/SS	0.0	0.0	8.8	8.8	8.8	8.8
Additional Wetland	0.0	7.55	0.0	3.85	0.0	11.4
Total	1.9	9.45	11.83	15.68	13.73	25.13

### **3.5.2.2 Wetland Acreage in Second Revised ASC**

The February 2001 FEIS identified an issue to be resolved—the acreage of wetland present on the site that is subject to Washington State regulation, based on guidance from the Department of Ecology (Ecology 1993a, 1994, 1997, 1998). In the Second Revised ASC, the applicant used the Washington State guidelines noted above for describing wetlands. The Second Revised ASC describes three main areas where wetlands would be either affected by plant construction or enhanced for mitigation purposes:

- The 19.2-acre site where the plant would be located and where wetlands would be filled.
- The 18.2-acre portion of the 37.4-acre site to the west of the plant site that would not be developed but would be used as the “west” mitigation site.
- A 9.2-acre parcel east of the plant site that would be used for a construction staging area and for additional wetland mitigation (the “east” mitigation site). The Port of Bellingham currently owns the 9.2-acre site and SE2 would have the option to purchase the property if the project is developed.

Currently, as presented in the Second Revised ASC, 8.45 acres of the 19-acre plant site to be developed is classified as wetlands, plus the 1.0-acre of wetland ditch, for a total of 9.45 acres of wetland area (see Figure 3.5-1). The 9.45 acres of wetlands now incorporate 7.55 acres of prior converted cropland (PCC) that was not included in the

FEIS. The summary of wetland acreage as presented in the Second Revised ASC (and other review documents for the ASC) is shown in Table 3.5-1.

The 1.0 acre of wetland ditch on the plant site conveys seasonal runoff across the site from west to east and eventually discharges into Johnson Creek, off the S2GF site. Plant species in the wetland ditch include reed canarygrass and barnyard grass.

The primary function of the wetlands on the S2GF site, as reported in Exhibit JW-4 of the settlement agreement with the Washington Department of Fish and Wildlife (WDFW) (see Appendix G of the FEIS), is the site's capability to entrap and retain sediment and nutrients. This is due to the vegetation cover, low flow rate of water through the site, and the pollutant load from the agricultural fields. This site's capability to perform recharge and discharge functions, and to provide baseflow to surrounding surface water features is discussed in Section 3.2 of the FEIS. Wildlife values are limited because of the lack of vegetative structural diversity, farmed conditions of the site, and lack of significant habitat features used by avian, terrestrial, and aquatic species. However, seasonal ponding and residual grain left on the ground after harvest of grain crops can provide some wildlife foraging and resting habitat on the PCC now incorporated into the areas considered as wetlands.

The west mitigation site, contiguous with the portion of the site to be developed for the plant, consists of:

- 8.8 acres of palustrine forested/scrub-shrub wetland (PFO/SS) plus 0.6 acre of emergent fringe, for a total of 9.4 acres
- 2.43 acres of wetland originally discussed in the FEIS (1.88 acres of farmed wetland pasture and 0.55 acre of emergent wetland ditch)
- 3.85 acres considered wetland under Washington State's definition of wetland and considered PCC under the Corps' definition of wetland

Black cottonwood, red alder, red-osier dogwood, and willows dominate the PFO/SS wetland. Other native and some nonnative shrubs are also present in the understory. Himalayan blackberry thickets are present in the scrub-shrub portion of the wetland. According to the city of Sumas Shoreline Master Program (December 28, 1998) regulations, the wetland is rated as a Category III wetland. A 25-foot buffer would be used to maintain this wetland's existing functions. The city of Sumas issued a Certificate of Land Use Consistency on March 2, 1999 confirming the wetland's category, classification, and consistency with the city's Shoreline Management Program (see Appendix I of the FEIS). The 0.55 acre of wetland ditch on the west mitigation site is a continuation of the 1.0-acre wetland ditch on the plant site. The additional 3.85 acres of wetlands are farmed to grow corn.

The Second Revised ASC also identifies a 9.2-acre parcel east of the S2GF site that would be used for a construction staging area (4.8 acres) and the east mitigation site (4.4 acres). Based on information in the Second Revised ASC, the staging area is overlaid with 2 feet of fill material and is currently used to store lumber. The 4.4 acres of

fallowed field contains 2.1 acres of emergent wetland. This wetland is dominated by reed canarygrass and does not support any surface water. The wetland ditch that crosses the plant site feeds into a 42-inch culvert that crosses the central portion of the eastern site.

### **3.5.2.3 Sensitive Plant Species**

No federal or state listed or special status plant species were documented within or adjacent to the project area following a search of the Washington Department of Natural Resources Natural Heritage Program database. However, four plant species were reported to occur in the vicinity of the project area (Appendix D of the FEIS). Western pearlshell, bristly sedge, and bulb-bearing water-hemlock are considered state sensitive species, and soft-leaved willow is considered a state threatened species. None of these species were reported to occur within 0.5 mile of the project area.

## **3.5.3 Environmental Impacts of Proposed Action**

This section addresses the likely impacts on wetlands that would be associated with the construction and operation of the project modifications made to the S2GF project facilities since the FEIS was issued. Construction impacts are those associated with the permanent fill or placement of material to construct facilities. Operational impacts are those associated with the operation of the S2GF.

### **3.5.3.1 Construction**

#### *Wetland Impact Acreage in February 2001 FEIS*

Impacts on wetlands are based on acreages and functions as described in the Second Revised ASC (includes Exhibit JW-4 of the settlement agreement between SE2 and the WDFW and information provided by the applicant's consultant, URS Corporation, during the Second Revised ASC review process. The wetland impact acreage from construction of the proposed S2GF was presented in the FEIS as 2.81 acres, as reported in Exhibit JW-4 in Appendix G. This acreage excluded impacts on PCCs because the Corps does not consider PCCs as jurisdictional wetlands under the Clean Water Act.

The Corps is reviewing the project through the individual permit process to authorize the fill of 1.9 acres of wetlands at the plant site (the 1.0-acre wetland ditch and 0.9 acre of farmed wetland pasture). The Corps has requested the applicant complete a Corps-approved mitigation and monitoring plan as part of the federal permit process (Barger 1999).

### *Wetland Impact Acreage from Second Revised ASC Project Modifications*

Based on the information in the Second Revised ASC, construction would affect a greater wetlands acreage than described in the February 2001 FEIS. In this SEIS, impacts on wetlands are greater because of the applicant's inclusion of PCC, considered wetland under Washington State's guidelines for regulating wetlands. Construction of the S2GF would result in the permanent loss of 9.45 acres of wetlands.

Project modifications presented in the Second Revised ASC include:

- Elimination of the diesel tank
- Relocation of the stormwater treatment ponds to the southern portion of the plant site
- Rerouting the existing wetland ditch through the southern and eastern edge of the plant site until it intersects and outfalls in an existing culvert

Although the footprint of the plant site would be reduced from the original proposal with these modifications, all 9.45 acres of wetland on the developed portion of the plant site would be eliminated.<sup>1</sup> All vegetation would be removed and topsoil would be stripped and stockpiled on the site for future reuse. Structural fill approximately 4 feet thick would be placed over approximately 18 acres of the plant site, including the 1.0-acre wetland ditch and the 8.45 acres of wetlands on the S2GF site. Of the 8.45 acres of wetland affected, approximately 0.8 acre would be excavated for the relocation of the proposed stormwater detention ponds.

The 6.88 acres of wetland on the west mitigation site and the 2.1 acres of wetlands on the east mitigation site would be incorporated into wetland mitigation for wetland impacts resulting from construction of the S2GF (see Figure 3.5-2). Although these wetlands would be affected by the construction associated with mitigation enhancement and creation, this activity would occur to increase the habitat diversity of the wetland system.

### *Impacts on Wetland Functions*

As discussed in the February 2001 FEIS, impacts that would occur during construction at the proposed plant site involve direct disturbance to weedy vegetation growing in the farmed wetlands through heavy equipment, vehicle, and crew activities. The disturbances would include vegetation clearing, digging, filling, grading, trenching, and compaction of soils at the plant site.

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<sup>1</sup> In contrast, the January 2000 proposal (described in the February 2001 FEIS) would have filled 11.47 acres of wetland using the revised wetland acreage including the PCC.

Figure 3.5-2

INSERT 11 X 17 “WETLANDS COMPENSATORY MITIGATION SITE PLAN”

Impaired hydrologic functions from the loss of wetlands from constructing the S2GF include the reduced capacity to retain stormwater, floodwater, sediments, and nutrients. However, converting the existing agricultural land use to the S2GF also reduces sources of sediments, nutrients (fertilizers), and possibly herbicides. Site development would reduce agricultural runoff and the S2GF site runoff would be retained and treated as discussed in Section 3.2 of the FEIS. Hydrologic functions of the wetland ditch would be maintained by relocating the ditch as a wetland swale in the west and east mitigation sites. A ditch and culvert would connect the swales along the southern part of the plant site between the two mitigation areas. Surface water in the ditch would eventually discharge into the culvert where the ditch currently flows.

Filling of the plant site is not expected to decrease surface hydrology for the adjacent PFO/SS wetland. Surface runoff from the S2GF site does not drain into the PFO/SS wetland because of a north-south ditch that carries runoff south to the east-west wetland ditch. Therefore, placement of the S2GF facility would not substantially reduce the site's watershed contribution to the PFO/SS wetland. In addition, the PFO/SS wetland receives surface water primarily from the farmland to the west, an area that would not be affected by the Proposed Action. Wetland hydrology is also supported by a high winter water table, which would not be disrupted by the plant site. Any existing drain tiles located south of the PFO/SS wetland would be removed during mitigation to increase the potential for groundwater to influence the site's wetland hydrology.

Although the wetlands on farmed land do not provide much wildlife value due to the lack of a diverse, native plant community, the seasonal ponding and presence of corn or other grain on the soil surface provide some resting and foraging habitat for waterfowl species. Construction of the plant site would eliminate this function the wetlands may provide, although surrounding agricultural land with similar conditions can continue to provide the same function in a regional context.

#### **3.5.3.2 Operational Impacts**

Elimination of the backup distillate fuel supply (2.5-million-gallon diesel tank and surrounding containment area) and relocation of the stormwater treatment facility to the southern portion of the plant site would not affect operational impacts of the project on wetlands. Conversion of wetland area to stormwater detention ponds is a permanent impact and converts the existing land use. Therefore, no operational impacts would occur on wetlands on the site where the plant is proposed because no wetlands would remain after construction of the plant. Designing the proposed stormwater treatment ponds to meet state water quality standards for Class A waters, and development and implementation of a spill prevention plan would minimize the likelihood of routine operational impacts that may occur on the adjacent wetlands in the east and west mitigation sites.

## **3.5.4 Mitigation Measures**

### **3.5.4.1 Mitigation Proposed in the February 2001 FEIS**

Mitigation presented in the FEIS is taken from Exhibit JW-4 of the July 17, 2000 Supplemental Settlement Agreement Between the WDFW and SE2. This exhibit is a wetland delineation and mitigation report prepared by Bexar Environmental Consulting Ltd., June 26, 2000. The FEIS incorporated the settlement agreements reached between WDFW, Ecology, and SE2 during the EFSEC adjudicative hearing process.

The FEIS described 19.41 acres of preservation and mitigation that would have been developed on two sites abutting the S2GF site. Of these, 10.01 acres of mitigation area were proposed to compensate for the 2.81 acres of emergent wetlands to be lost upon site construction. The combined mitigation ratio (creation/enhancement area to impact area) was presented as 3.55:1.

Wetland mitigation for the S2GF site has been revised in the Second Revised ASC as described below. The Corps is responsible for reviewing mitigation for the federal permitting process. As the regulatory agency with jurisdiction in the review and site certification of this project, EFSEC would issue a 401 water quality certification in lieu of any state authority.

### **3.5.4.2 Mitigation Proposed in the Second Revised ASC**

Two sites are proposed to mitigate for the filling of 9.45 acres of wetland at the S2GF site (see Figure 3.5-2). Wetland mitigation would include creation of wetlands, enhancement and preservation of existing wetlands, and creation of upland buffer that totals 22.56 acres of wetland and upland areas. With relocation of the stormwater detention facilities, the west mitigation site would contain a total of 18.2 acres, including enhancement and preservation of the existing wetlands, creation of wetlands, and upland buffer creation. The 8.8 acres of PFO/SS wetland area would be preserved and enhanced. The 4.4-acre site, immediately to the east of the plant site, would also be used for wetland and buffer mitigation. The two mitigation sites would be hydrologically connected through a constructed ditch. These created and enhanced wetland areas would provide wildlife habitat with more cover, forage, and breeding areas for amphibians, small mammals, and various birds, than currently exists.

Cumulatively, compensatory mitigation at the two mitigation sites would consist of creating 3.73 acres of new wetlands, enhancing 9.03 acres of existing farmed and emergent wetlands, and enhancing and preserving the 8.8-acre forested/scrub-shrub wetland. An additional 1.0 acre of upland forest buffer would be created in the mitigation area to add some habitat diversity to the mitigation area.

All proposed species for planting are native and compatible or similar to naturally occurring species in adjacent wetland areas. The targeted long-term plant community

consists of emergent, shrub, and forested areas. Forested areas are proposed along slightly elevated margins to the south and also on several proposed interior hummocks. Habitat features such as downed logs and stumps would be placed throughout the compensatory mitigation wetland. Emergent species are proposed for the lower areas. Higher margins are to be seeded with a grass mix. Areas where reed canarygrass is to be removed from the wetland enhancement area would be reseeded with native herbs and grasses.

Proposed plant site mitigation plantings that may be used include the following native species:

- ***Created wetland*** – black cottonwood, red alder, paper birch, salmonberry, Scouler’s willow, Pacific willow, red-osier dogwood, slough sedge, and tall mannagrass
- ***Enhanced wetland*** – black cottonwood, red alder, salmonberry, Scouler’s willow, Pacific willow, and red-osier dogwood; the 8.8-acre forested/shrub-shrub wetland would be enhanced by planting western redcedar, western hemlock, and Sitka spruce
- ***Wetland buffer*** – western hemlock, western redcedar, black cottonwood, red alder, vine maple, Nootka rose, salmonberry, Scouler’s willow, bearded fescue, hair bentgrass, and native bluegrass
- ***Emergent wetlands*** – slough sedge, beaked sedge, spike bentgrass, bluejoint reedgrass, and northern mannagrass

A proposed stormwater detention facility located within the 19.2-acre plant site would treat stormwater runoff from the proposed S2GF. Site runoff would be detained in a two-cell stormwater detention facility before being released into a proposed drainage and water quality channel. Treated water would first enter the mitigation wetlands and provide additional treatment before entering the new ditch system. The stormwater facility would be designed based on the Department of Ecology’s Stormwater Management Manual for Western Washington (Ecology 2000). The stormwater treatment ponds would be designed to provide water quality treatment and flood storage capacity to compensate for the impacts associated with the S2GF site.

The east mitigation area would receive treated stormwater and provide some additional residence time and water quality treatment before the water is eventually discharged off site. The created wetland would provide additional stormwater storage capacity by slightly lowering surface elevations to create wetlands and sediment trapping, although the mitigation area is not intended for use as a stormwater facility. Construction of seasonally ponded areas in the created wetland is intended to produce suitable amphibian habitat and enhance overall biological diversity.

A 10-year monitoring period would be implemented to ensure plant establishment and that wetland hydrology is functioning appropriately as described in the June 2000 mitigation plan (Bexar Environmental Consulting Ltd.).

SE2 proposes that all created or enhanced wetlands and upland areas, along with the 8.8 acres of forested wetland to be preserved and enhanced, be dedicated to the city of Sumas as permanent open space or placed in a conservation easement.

#### **3.5.4.3 Mitigation Adequacy for 401 Water Quality Certification**

Mitigation for the plant site, as proposed by the applicant, must satisfy requirements for Washington State's 401 water quality certification process. To evaluate the adequacy of the mitigation, EFSEC uses guidance issued by the Department of Ecology that represents Washington State mitigation requirements (Ecology 1993a, 1993b, 1994, 1998). Mitigation, as presented by the applicant, has been determined to meet Washington State 401 certification requirements, with certain conditions. Appendix A discusses the proposed mitigation and how the mitigation acreage presented adequately compensates for wetland impacts based on the use of ratios to determine appropriate acreage.

A summary of the proposed mitigation and the determination of mitigation adequacy are presented below.

**Wetland Ratings.** The 8.8-acre PFO/SS wetland is considered a Category 2 wetland based on Washington State guidance (Ecology 1993). This Final SEIS also recognizes the additional emergent and farmed wetlands as Category 3 wetlands.

**Mitigation Ratios.** The Final SEIS has not changed the mitigation ratios identified in the Draft SEIS for the enhancement of existing farmed and emergent wetlands and the creation of new wetlands. Ratios of 1.25:1 and 2.5:1 for creation and enhancement, respectively, represent minimum replacement ratios commonly recommended by Washington State. This is a downward adjustment from ratios typically used for Category 3 wetlands.

**Enhancement Credit for the PFO/SS Wetland.** The Final SEIS recognizes mitigation enhancement credit for the entire 8.8-acre PFO/SS wetland. A 4:1 enhancement ratio for the 4.0-acre forested portion of the wetland and a 2.5:1 enhancement ratio for the 4.8-acre scrub-shrub wetland are appropriate.

The PFO/SS wetland can be enhanced by (1) removing Himalayan blackberry, (2) planting native shrubs in reduced patches of Himalayan blackberry, (3) planting coniferous trees to increase the coniferous tree cover over time, and (4) planting a variety of native shrubs and trees around monocultures of Douglas' spiraea. Implementing these four activities would enhance the development of this deciduous forested/scrub-shrub wetland into a coniferous forested wetland. All planting and weed clearing should be done with hand-held tools and without vehicles to minimize disturbance to native plants and soils in the wetland.

The 4:1 and 2.5:1 enhancement ratios identified in this Final SEIS represents a downward adjustment of the state's recommended enhancement ratio of 6:1 for Category 2 forested wetlands and 4:1 ratio for Category 2 scrub-shrub wetlands. This downward adjustment

is appropriate considering the presence of nonnative species in the wetland, the minimal amount of conifer trees in the wetland, and the relatively young age of many of the trees in the wetland. Enhancement of the PFO/SS wetland would occur because:

- The deciduous forested wetland would increase in species diversity and habitat complexity.
- Introducing conifers to the system would extend the potential life of the forested wetland component. Conifers are generally longer-lived trees than deciduous trees such as the paper birch and cottonwoods that are present in the wetland. Although conifers may naturally establish in the wetland over the long term via vegetative succession, planting conifers would accelerate this process.
- The Himalayan blackberry in the scrub-shrub portion of the wetland can be cleared and replanted with native shrub and tree species to improve habitat diversity and structure.

**Mitigation Acreage Based on Mitigation Ratios.** Based on the mitigation ratios discussed above, the proposed mitigation results in 9.51 acres (see Table 3.5-2). The proposed mitigation acreage compensates for the 9.45 acres of wetland impact. No additional wetland mitigation acreage is required.

**Table 3.5-2. Summary of Mitigation Acres, Ratios, and Credits**

Type of Mitigation	Acres Proposed	Allowed Ratio	Mitigation Credit (acres) <sup>1</sup>
Enhancement of existing farmed wetlands	9.03	2.5:1	3.61
Creation of wetland from upland	3.73	1.25:1	2.98
Enhancement of PFO	4.0	4:1	1.0
Enhancement of PSS	4.8	2.5:1	1.92
Total area enhanced or created	21.56 <sup>2</sup>		9.51
<sup>1</sup> Mitigation credit determined by dividing the acres of mitigation by the mitigation ratio			
<sup>2</sup> Does not include 1.0 acre of upland forest			

#### *Mitigation Acreage Based on Washington Function Assessment Method*

In addition to the use of mitigation ratios, another method that can be used to determine the appropriate mitigation acreage is to use a wetland function assessment. A function assessment can compare wetland functions that would be lost versus wetland functions to be developed through mitigation enhancement or creation. SE2 used the Washington Function Assessment Method (WFAM) (Ecology 1998) to determine whether the

proposed mitigation would compensate for the functions lost through development of the proposed S2GF.

The WFAM was used to individually evaluate 13 wetland functions and then calculate a total wetland function performance for the farmed and emergent wetlands to be affected by the S2GF. This method was used for the wetlands under current conditions and a predicted function performance for the mitigation wetlands 20 years after they have been constructed/enhanced (URS Corporation 2001).

Using this WFAM approach, SE2 concludes that the proposed mitigation is sufficient to compensate for the lost functions. This conclusion is based on an approach where the individual functions were assigned a performance score and added together for a total performance score for the wetland. The total performance score was then multiplied by the wetland acreage for a total function unit score. Comparing the total function units of the 9.45 acres of wetlands to be filled (330.75 function units) to the total function units of the 12.15 acres of mitigation wetlands 20 years after construction (692.55 function units) indicates that mitigation would result in an increase in wetland function.

However, as discussed in Appendix A of this SEIS, guidance presented in Chapter 2 of the WFAM states that the WFAM is designed to only provide performance scores for individual functions and not a single summary performance score for the wetland area being assessed. The WFAM was not designed to lump functions into group scores (Ecology 1999) as presented by the applicant. Therefore, a thorough evaluation of the applicant's WFAM analysis would need to be completed before this analysis can be used as a basis to verify wetland acreage using the WFAM approach. Since it has been determined in this Final SEIS that the mitigation acreage is sufficient based on mitigation ratios, it is unnecessary to conduct an evaluation.

### *Wetland Buffers at Mitigation Site*

The created and enhanced wetland mitigation areas should have adequate buffers included in the design of the site. Where feasible, both existing and mitigation wetland areas on the proposed mitigation sites should have a minimum 50-foot buffer.

However, in portions of the proposed mitigation areas, a 50-foot buffer is not feasible. In the west mitigation area, emergent wetlands are present along the western and southern boundary. There is no need to fill wetland to create upland buffers in these areas. Also, the existing wetlands along the southern and eastern edges of the east mitigation area should not be filled and converted to upland buffers. Areas such as these where existing wetland is within 50 feet of the edge of the mitigation area should be enhanced as palustrine forested communities to provide a physical buffer for the interior of the mitigation areas.

To maximize buffer areas in existing uplands in the east and west mitigation sites, specific recommendations for buffers include the following:

- Retain the upland forested area in the southwest and southeast corners of the west mitigation area. Convert existing emergent wetlands along the wetland portions of the western and southern boundaries to palustrine forested wetland.
- Create a 50-foot upland buffer along the southern edge of the east mitigation area. Extend the buffer along the western and eastern edges, but do not convert existing emergent wetland into upland buffer. Convert areas of emergent wetland along the eastern edge and within 50 feet of the western edge into palustrine forested wetland. Enhance the existing emergent wetlands along the northern edge into palustrine forested wetland. Continue the planting of wetland tree and shrub species from the delineated wetland edge to the existing tree line. Consider creating additional upland buffer or wetland on the northern portion of the east mitigation area by extending the mitigation north to the southern edge of the proposed laydown area.

Use of the median area between Haul Road and State Route 9 is unavailable for planting upland buffer because of utility rights-of-way owned and managed by the city of Sumas (see Figure 3.5-2) (per the adjudicative hearings held for this project on November 13, 2001).

#### *Additional Conditions of Mitigation Plan for 401 Certification*

Although SE2 has presented several mitigation plans (Bexar 1999, 2000) and a mitigation summary (URS Corporation 2001), a final mitigation plan that addresses all proposed project impacts would be required by EFSEC. This final plan would address the proposed plant site as well as impacts and mitigation associated with utility corridor development. The final mitigation plan would incorporate many of the measures presented in the initial mitigation plan for the Proposed Action (Bexar 1999). In addition, the final mitigation plan would need to address the following information:

- Mitigation objectives linked to measurable performance standards
- Monitoring methods and preparation of as-built plans as described in Appendix A of this SEIS
- Restrictive covenants that ensure long-term preservation of the mitigation areas
- Contingency measure specifying who would be responsible for conducting monitoring, evaluating compliance with performance standards, and designing specific remedial actions as needed to ensure the mitigation is successful
- Control of invasive weeds that the Whatcom County Noxious Weed Control Board considers important

- A determination of whether the area to the west of the S2GF site that would contribute runoff to drainage ditches and proposed stormwater treatment facility is 35 or 40 acres.

EFSEC should require the applicant address these elements of the final mitigation plan using guidance provided by Washington State in publications from Ecology and the Washington State Department of Transportation (1999).

In addition, the applicant proposes to discharge surface water from the stormwater treatment ponds to the east mitigation site. The mitigation plan must include a statement that the stormwater treatment ponds would be designed to meet state water quality standards for Class A waters before water is discharged into the mitigation site.

### **3.5.5 Significant Unavoidable Adverse Impacts**

Wetlands impacts would occur if the Proposed Action is taken. Construction activity would be mostly located within previously farmed wetland areas. The vegetation in these areas has been and is currently affected repeatedly by agricultural practices.

Wetlands impacts would be mitigated by creation, enhancement, and preservation to improve existing wildlife and vegetation conditions. The wetlands associated with the proposed project are generally of low quality. Their vegetation structure and hydrologic regimes have been degraded previously through ongoing agricultural activities. Therefore, impacts on wetlands associated with the project would be mitigated through proposed creation, enhancement, and preservation measures.

Loss of 9.45 acres of wetlands at the plant site would be replaced by 22.56 acres of created, enhanced, and preserved wetlands (21.56 acres) with upland forest (1.0 acre) interspersed in the mitigation areas. The mitigation would increase plant diversity and structure from the existing agricultural setting of the majority of the affected wetlands. Based on the mitigation ratios discussed in Section 3.5.4, the mitigation, as currently presented by the applicant, does reduce these unavoidable impacts to a level that is fully compensated based on Washington State mitigation requirements.